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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,988	03/19/2002	Atsuo Hattori	T2171.0201/P201	5657
24998	7590	01/05/2004	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			NGUYEN, KHIEM D	
2101 L STREET NW			ART UNIT	
WASHINGTON, DC 20037-1526			PAPER NUMBER	

2823

DATE MAILED: 01/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/099,988

Applicant(s)

HATTORI ET AL.

Examiner

Khiem D Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 3-6 and 11-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 2, 18 and 19 is/are allowed.
- 6) ☒ Claim(s) 7-10 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 7-10, and 17 have been considered but are moot in view of the new ground(s) of rejection.

New Grounds of Rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobushi et al. (JP 8-15318) in view of Shimada et al. (U.S. Patent 6,408,122).

In re claims 7 and 8, **Nobushi** discloses a method of manufacturing a probe unit, the method comprising: forming a plurality of parallel, elongated leads **3** on the contiguous flat surfaces of a substrate **2** and a sacrificial layer **3'**, the leads extending over both portions of the substrate and portions of the sacrificial layer wherein forming the sacrificial layer in the substrate before the depositing step (Abstract and **FIGS. 8-9**); removing the sacrificial layer under the cantilever portion 3a so that the leads include a supported portion located on the substrate and an unsupported portion extending over at least one edge of the substrate (**FIG. 9**).

Nobushi does not explicitly disclose etching the sacrificial layer so that the leads include a supported portion located on the substrate and an unsupported portion extending over at least one edge of the substrate.

Shimada ('122) discloses etching the sacrificial layer **6b** so that the leads **5** include a supported portion located on the substrate **10** and an unsupported portion extending over at least one edge of the substrate (col. 8, line 49 to col. 9, line 43 and **FIG. 6F**). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Nobushi and Shimada to enable the probe unit of Nobushi to be formed and furthermore a batch process with high productivity can be obtain (Abstract).

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobushi et al. (JP 8-15318) in view of Shimada et al. (U.S. Patent 6,408,122) as applied to claim 7-8 above, and further in view of Shimada et al. (U.S. Patent 6,335,522).

In re claims 9 and 10, **Nobushi** does not explicitly disclose forming a depression in the substrate and forming the sacrificial layer in the depression and removing a portion of the substrate located below the depression as recited in present claims 9-10.

Shimada ('522) discloses forming a depression (**FIG. 6C: 25**) in the substrate (**FIG. 6A-E: 1**) (col. 8, lines 11-39 and **FIGS. 3A-B**) and forming the sacrificial layer (**FIG. 6B: 35**) (col. 10, lines 13-44 and **FIGS. 6B-C**) in the depression and removing a portion of the substrate located below the depression (**FIGS. 7D-E**). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Nobushi and Shimada to enable a depression in the substrate of Nobushi to be

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formed and furthermore to obtain a probed, which is simple and provides a good reproducibility and a high processing precision (col. 2, lines 59-64).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Shimada et al. (U.S. Patent 6,335,522).

In re claim 17, **Shimada** ('522) discloses a method of manufacturing a probe unit having leads supported on a top surface of a substrate, the method comprising (col. 8, line 11 to col. 10, line 51 and **FIGS. 3A-7E**): forming a sacrificial layer (**FIG. 6B: 35**) having a surface which is contiguous to a top surface of the substrate (**FIG. 6A-E: 1**), the sacrificial layer being made of a material (col. 10, lines 13-18) which is different than the material of the substrate; forming a number of parallel leads (**FIG. 6D: 6**) on the top surface of the substrate and an area of the sacrificial layer; and removing the sacrificial layer (**FIGS. 7D-E**).

Allowable Subject Matter

Claims 1-2 and 18-19 are allowed.

Response to Amendment

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 7-10, and 17 have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicant's argument that the etching process is neither disclosed nor suggested in Nobushi et al. as recited in independent claim 7 wherein the sacrificial layer is made of a material which is different than the material of the substrate as recited in independent claim 17, examiner respectfully disagree, since Applicant's amendment necessitated the new ground(s) of rejection, Applicants are directed to page 3, 2nd paragraph and page 4, 2nd paragraph presented in this Office Action in which Shimada ('122) discloses etching the sacrificial layer 6b so that the leads 5 include a supported portion located on the substrate 10 and an unsupported portion extending over at least one edge of the substrate (col. 8, line 49 to col. 9, line 43 and FIG. 6F) and Shimada ('522) discloses wherein the sacrificial layer being made of a material (col. 10, lines 13-18) which is different than the material of the substrate.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

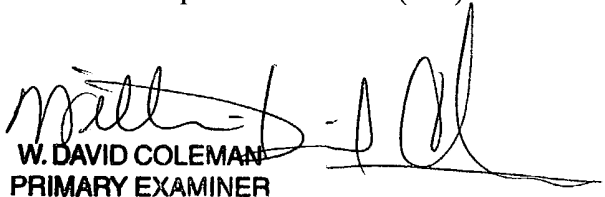
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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D Nguyen whose telephone number is (703) 306-0210. The examiner can normally be reached on Monday-Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


W. DAVID COLEMAN
PRIMARY EXAMINER

K.N.
December 29, 2003